

What is claimed is:

1. A bond coat composition for use with a ceramic composite component, the composition comprising:
  - an alumina powder;
  - a silica-yielding liquid;
  - glass frits; and
  - sufficient solvent to permit mixing of the components and forming a bond coat.
2. The bond coat of claim 1 wherein the alumina powder and the glass frits each comprise about 45 weight percent, and the silica-yielding liquid comprise the remaining portion of the composition.
3. The bond coat of claim 1 wherein the silica-yielding liquid is comprised of silicone resins.
4. The bond coat of claim 1 wherein the solvent is comprised of ethanol and isopropyl alcohol.
5. The bond coat of claim 1 further comprising a dispersant.
6. The bond coat of claim 1 wherein the glass frits are a mixture comprising calcium oxide, silicon oxide, aluminum oxide, barium oxide, and magnesium oxide.
7. The bond coat of claim 6 wherein a percentage weight of each component of the total weight of the mixture is controlled to provide a predetermined melting point of the mixture.
8. The bond coat of claim 1 wherein the bond coat is a slurry spray.
9. The bond coat of claim 1 wherein the bond coat is a tape.
10. The bond coat of claim 1 wherein the bond coat is applied with a brush.
11. The bond coat of claim 1 wherein the bond coat is from about 0.002 to about 0.004 inches thick.

12. The bond coat of claim 1 wherein a melting point of the bond coat is about 1,950°F.
13. The bond coat of claim 1 wherein the silica-yielding liquid is comprised of a solid silicone resin dissolved in a solvent
14. A method of producing a coated ceramic composite component having a substrate, the steps comprising:
  - providing a ceramic composite component having a substrate;
  - applying a bond coat over the substrate, wherein the bond coat is formed by;
    - mixing an alumina powder, a silica-yielding liquid, glass frits and solvent;
    - applying a ceramic coat over the bond coat; and
    - firing the ceramic composite component.
15. The method of claim 13 further including an additional step, after the step of applying the bond coat and before the step of applying the ceramic coat, of firing the ceramic composite component.
16. The method of claim 13 wherein the step of applying the bond coat includes the step of slurry spraying the ceramic-barrier-coating mixture onto the component.
17. The method of claim 13 wherein the step of applying the bond coat includes the step of applying a tape layer of bond coat material onto the component.
18. The method of claim 13 wherein the step of applying the bond coat includes the step of brushing the bond coat material onto the component.